

**Notice of Allowability**

Application No.

09/892,506

Examiner

Gary C. Vieaux

Applicant(s)

MURAYAMA ET AL.

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 2/8/2007.
2. ☒ The allowed claim(s) is/are 1, 4-9, 11-17 (now formally renumbered as claims 1-14).
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

N. VU  
NGOC-YEN VU  
SUPERVISORY PATENT EXAMINER

## **EXAMINER'S STATEMENT OF REASONS FOR ALLOWABILITY**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 8, 2007, has been entered.

### ***Amendment***

In response to the most recent Office Action, dated August 10, 2006, claims 1 and 8 have been amended and claims 3 and 10 have been cancelled. Additionally, a declaration under 37 C.F.R. 1.132 has been submitted.

### **Response to Arguments**

In light of the current amendments and Inventor declaration submitted under 37 C.F.R. 1.132, Applicant's arguments have been fully considered and are persuasive. The rejections of claims 1, 4-9, and 11-17 have been withdrawn.

### ***Allowable Subject Matter***

**Claims 1, 4-9, and 11-17** are allowed.

The following is an examiner's statement of reasons for allowance:

Regarding claims 1, 4-9, and 11-17, the prior art is not found to teach or fairly suggest, a linear image sensor chip comprising a semiconductor substrate having an elongated shape, an image pickup section formed on said semiconductor substrate, said image pickup section including (i) at least one photodiode group composed of a plurality of photodiodes formed only in a central area of a surface of said semiconductor substrate along a longitudinal direction of said semiconductor substrate and (ii) a charge transfer element provided for each said photodiode group, a peripheral circuit section formed in a peripheral area of said surface of said semiconductor substrate, said peripheral area being external to said central area in the longitudinal direction of the semiconductor substrate, a plurality of bonding pads formed on the surface of said semiconductor substrate externally, in the longitudinal direction, to the central area of the surface of the semiconductor substrate, each of said bonding pads having an exposed central surface area, wherein each of said bonding pads is disposed outer than said peripheral circuit section with respect to the longitudinal direction of said semiconductor substrate, a plurality of metal lines formed on the surface of said semiconductor substrate, each of said metal lines having an end connected to one of said bonding pads and another end connected to said peripheral circuit or said charge transfer element, a light-suppressing layer formed above said semiconductor substrate and covering a peripheral area of each of said plurality of photodiodes, and a passivation layer formed to cover an outer surface area of each of said bonding pads

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Andoh et al. (US 6,472,247) discloses a longitudinally shaped solid-state imaging device and method of production.

Wetzel (US 6,011,249) discloses a peripheral bonding pad arrangement.

Philbrick et al. (US 6,037,655) discloses a similarly shaped linear image sensor.

### ***Contact***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary C. Vieaux whose telephone number is 571-272-7318. The examiner can normally be reached on Monday - Friday, 8:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NgocYen T. Vu can be reached on 571-272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gary C. Vieaux  
Examiner  
Art Unit 2622

Gcv2



NGOC-YEN VLL  
SUPERVISORY PATENT EXAMINER